

IN THE SPECIFICATION

Please amend paragraph 0042 as indicated below.

In one embodiment, mirror layer 310 is disposed above scintillator layer 320, and scintillator layer 320 is disposed above light transparent layer 330. Light transparent layer 330 is disposed above photodiode layer 340, and photodiode layer 340 is disposed above substrate layer 350. Substrate layer 350 is disposed above protective layer 360. Scintillator layer 320 has first surface 322 adjacent to light transparent layer 330 and second surface 334 adjacent to mirror layer 310. In an alternative embodiment, substrate layer 350 may be absent from imager 300. Substrate layer 350 may not be necessary so that photodiode layer 340 is disposed directly above protective layer 360. Scintillator layer ~~350-320~~ or protective layer 360 may serve as the substrate for imager 300.

Please amend paragraph 0047 as indicated below:

In one embodiment, x-rays may be absorbed in a direction from protective layer ~~350-360~~ towards mirror layer 310. As such, scintillator 320 absorbs the x-rays at first surface 322 that is adjacent to photodiode layer 340. Columnar structures (e.g., 324, 326) of scintillator 320 enable visible light to target the photodiodes (e.g., 342, 344) on photodiode layer 340 by reflecting the light back towards the photodiodes. Thus flat panel imager 300 having scintillator 320 with columnar structures, combined with a configuration to receive x-rays through scintillator 320 at first surface 322 that faces photodiode layer 340 may increase further the efficiency of light detection to produce an image.

Please amend paragraph 0048 as indicated below:

Substrate ~~340-350~~ may be made of a material that has low attenuation or absorption of x-rays. A substrate that absorbs x-rays may detrimentally reduce the corresponding light intensity generated by scintillator 320. This may have an effect of requiring higher radiation doses to compensate for the reduction in x-ray energy after passing through substrate layer ~~340-350~~. In one embodiment, substrate layer ~~340-350~~ is made from silicon. In another embodiment, substrate layer ~~340-350~~ is a glass material. Materials for making substrate ~~340-350~~ are well known in the art and as such, a detailed description is not provided herein.

Please amend paragraph 0049 as indicated below:

In one embodiment, substrate ~~340-350~~ may have a thickness of approximately 1.1 millimeters. Photodiodes 324, 326 may each have a thickness of approximately 2 microns. Scintillator layer 320 may have a thickness of approximately 0.6 millimeters.